

ABSTRACT

An apparatus for forming an oxide film on the surface of a substrate S by a CVD method under the pressure conditions close to the atmospheric pressure, comprising: gas supply sources 3A, 3B for supplying process gases of two components, a raw gas (A) comprising a silicon-contained gas such as TMOS, MTMOS or the like, and a reactive gas (B) comprising an oxidizing gas such as O₂, N₂O or the like, and a discharge processing section 1. The process gas (A) is mixed, in the vicinity of the surface of a substrate without discharge processing, with the process gas (B) discharge processed in the discharge processing section 1, whereby in the CVD method under normal pressure, an oxide film which is excellent in membranous and coverage property is formed at a fast film forming speed. More preferably, a H₂O gas discharge processed or not discharge processed is mixed.